

A Comparative Study on Working Capital Management of Selected Paper Companies in India

Abstract

Working capital is the life blood and nerve system of the company. Working capital management (WCM) is related to management of current assets and current liabilities. The study is done on three paper companies namely, The South India Paper Mills Ltd., Rama Pulp and Papers Ltd. and West Coast Paper Mills Ltd. The main objective of the study is to examine and evaluate the working capital management of selected paper companies. The tools and techniques used in this study includes trend analysis, ratio analysis and percentage method by data from the year 2014-15 to 2017-18.

Keywords: Net Working Capital, Operating Cycle, Ratio Analysis, Trends, Working Capital Management.

Introduction

Concept of Working Capital

A number of industries for the past few years have been finding it difficult to solve the increasing problems of adopting seriously the management of working capital. The study attempts to recognize importance of working capital and recognize the factors influencing the working capital. Working capital is the life blood and nerve system of the company. Funds required for carrying on current operation have been variously called as short-term financing, short-term funds, working capital etc. Capital in its entirety can be resolved into two main categories (i) fixed capital and (ii) working capital. Fixed capital represents that part of business resources which is invested in fixed assets. Working capital is required for financial short term or current assets. According to the gross concept, working capital refers to sum of all current assets. Current assets are those assets, which can be converted into cash within one year (or operating cycle). It includes inventories, cash, debtors, short-term securities and bills receivables. The net working capital is surplus of current assets over current liabilities. Current liabilities are those liabilities which are probable to settle for payment within one year. Bills payables, creditors, outstanding exp., and bank overdraft are includes in current liabilities. The consideration of level of investment in current assets should avoid two danger points-excessive investment and inadequate investment in current assets. Net concept of working capital i.e. excess of current assets over current liabilities considered in this present study.

Working Capital = Current Assets – Current Liabilities

Working capital management (WCM) is related to management of current assets and current liabilities. The main object of working capital management is to manage the concern's current assets and current liabilities in such a way that an adequate working capital is maintained. The present study seeks to study in depth the working capital management of selected paper companies in India. Success of a business firm depends on the proper management of working capital. Proper management of working capital is very closely related to efficient and the optimal utilization of the fixed assets.

Circulation System of Working Capital

A part of the generated funds is used for day to day operations of the business i.e. to pay wages, overheads and expenses for the raw material processed etc. This makes stocking of finished goods by whose sales either accounts receivables are created or cash is received. In this process profits are generated.



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Operating Cycle

The operating cycle is the time duration which is required to complete the chain of procedures from purchase of raw material for cash to the realization of sales in cash.

1. Conversion of cash into raw material,
2. Conversion of raw material into work-in-process,
3. Conversion of work-in-process into finished goods,

4. Conversion of finished goods into debtors or bills receivables through sale,
5. Conversion of debtors or bills receivable into cash.

The cycle will repeat again and again over the period depending upon the nature of the business and type of product etc. The diagram shown as below explains the operating cycle of a manufacturing concern.



Figure 1: Operating Cycle of a Manufacturing Firm.

Objectives of the Study

The main objective of the present study is to examine and evaluate the working capital management of selected paper companies over a period of four years from 2014-15 to 2017-18. The other objectives can be listed below:

1. To understand the concept of working capital, working capital management.
2. To study the importance of adequate working capital.
3. To study the estimating working capital requirements and techniques of working capital analysis.
4. To analyse of working capital trends and liquidity of selected paper companies in India.
5. To analyse the working capital performance of the company.
6. To know the comparative position of paper companies in working capital management.
7. To give suggestions towards effective working capital management.

Methodology of Research

The study is completely based on secondary data which are collected from published annual reports of all the selected three paper companies. Books, internet, journals etc. are also used. The period covered under the study extends over four financial years from 2014-15 to 2017-18. In order to analyse the problem of working capital management, various techniques of financial management such as ratio analysis, fund flow analysis and cash flow analysis have been used here so as to arrive at just and logical conclusions. Statistical technique such as trend analysis (least square method) has also been

used for the analysis of working capital. The figures contained in the Annual Reports have been rounded off to lakhs of rupees upto two decimal places.

Hypothesis

For an analysis of working capital trends of paper companies in India following null hypothesis will be tested:

1. There is no significant difference between the working capital ratios of selected paper companies in India
2. Working Capital Trend of paper companies will conform to the straight line calculated by the method of least squares.

Review of Literature

Singh, Swaran and Bansal S.K. (2010) analyzed the management of working capital in IFFCO & KRIBHCO. The study was done by using data from 1999-00 to till 2006- 07 and using various techniques like operating cycle analysis, ratio analysis and T-Test. Finally concluded that working capital management at IFFCO is superior.

Pandey, Shishir and Jaiswal, Vikas Kumar (2011) was done the study on effect of working capital management on profitability related to manufacturing firms. 5 years study period was taken i.e. 2005 – 2010. The research methodology used by author is correlation and regression analysis. As per the result, there is negative relationship between profitability and debtor's days, inventory days, and creditor's days. Another results shows cash velocity, size of the firm, and net working capital leverage are significant under both method.

Sharma, Poonam Gautam and Kaur Preet (2015) explained the impact of working capital

management on profitability of Bharti Airtel Telecom Company. The period of study was 01.04.2007 to 31.03.2015. Various statistical tools were used for study. As per the results, there is significant negative relationship between liquidity and profitability. It also reveals that quick ratio, inventory turnover ratio, debtors turnover ratio shows satisfactory performance but current ratio was found unsatisfactory.

Working Capital Management

Importance of Working Capital Management

1. As circulation of blood is very important in the body for life, flow of funds is also very important for maintain the firm.
2. Sufficient working capital is necessary for continuous production, for solvency of the firm, payment of outstanding bills on time, for avail the benefits like cash discount etc.
3. The maximum time of financial manager is consumed in the working capital management. It helps in increasing the profitability because of maintains proper liquidity.
4. Shortage of working capital is the main reason of business failure. Inefficient working capital management is responsible for loss of sales and decline in profits.
5. The dangers of excessive working capital are: overtrade and lose heavily, defective credit policy and slack collection period, higher incidence of bad debts, chances of inventory mishandling waste, theft and losses increase.

Methods of Estimating Working Capital Requirement

Working capital requirement can be determined mainly in two ways:

Operating Cycle Approach

It may be divided into four stages:

1. Raw material and stores storage stage.
2. Work-in-process stage.
3. Finished goods inventory stage.
4. Debtors collection stage.

Total duration of each of these stages minus the credit period allowed by the suppliers is called operating cycle period. In symbols, $O = R + W + F + D - C$

Here,

O = operating cycle duration,
R = duration of raw material and stores storage,
W = duration of work-in-process,
F = period of finished goods storage,
D = duration of debtors collection,
C = duration of creditors payment

This method is more dynamic and refers to the working capital in realistic way. The number of operating cycles is calculated by dividing 365 days by the period of the operating cycle. Thereafter, computing the requirement of working capital, operating expenditure is divided by the number of operating cycles in a year.

Forecasting of Current Assets and Current Liabilities Method

Firstly, estimates of all the current assets and current liabilities. The net working capital requirements are difference between the forecasted amount of current assets and current liabilities. To this

amount, a fixed percentage would be added for provision of contingencies. Tondon committee has recommended this method for estimation of working capital.

Techniques of Working Capital Analysis

There are some tools for financial analysis of working capital. The important of them are as follows:

Trend Analysis

Trend analysis presents a picture of the current assets and current liabilities and enable to us study the increase and decrease in the individual current assets, current liabilities. Also its effect on the working capital position.

Ratio Analysis

It can be used for checking upon the efficiency with working capital. The main ratios for working capital management are: (i) working capital ratio (ii) current ratio and (iii) current debt to tangible net worth.

Funds Flow Analysis

This technique helps to analyse changes in working capital components between two dates. The comparison of current assets and current liabilities shows changes in individual current assets, as well as the source from which working capital has been obtained.

Statistical Techniques

The techniques of statistical to be used in the analysis of working capital management are (i) Measures of central tendency; (ii) Measures of dispersion; (iii) Analysis of time series; (iv) Chi-square test; and (v) Analysis of variance.

Paper Industry in India

The capacity for paper and paper board production was 1.36 lakh tones in the year 1950-51. The industry has made fast progress and in the year 1986, there were 271 paper mills in India with a total yearly installed capacity of 26.83 lakh tonnes. The Indian paper industry accounts for a propos 3.7% of the world's production of paper. The expected sales of the paper industry is Rs. 60,000 crore. Consumption of paper in India is approximately 15 million tonnes per annum which is estimated to reach 23.5 million tonnes per annum by the year 2025. The study is done on three paper companies namely, The South India Paper Mills Ltd., Rama Pulp and Papers Ltd. and West Coast Paper Mills Ltd.

The South India Paper Mills Limited

SIPM incorporated in the year 1959 and produces printing, writing, packing paper and paper boards from the Nanjangud factory in Karnataka. Approximately 200 MT/day is the current capacity.

Rama Pulp and Papers Ltd.

RPPL incorporated in the year 1980 as a private limited company and in 1983 it became a public limited company. The company put up its plant at Vapi, Gujarat, to manufacture industrial papers with an installed capacity of 10,000 million tonnes per annum. The company is now looking ahead to meet the challenges both in domestic and abroad markets.

West Coast Paper Mills Limited

WCPML is one of the oldest and the largest producers of paper for printing, writing, and packaging. It was established in the year 1955,

the Mill is located at Dandeli in Uttara Kannada district in Karnataka. The EBITDA margin of company was 26.43% during the year.

Data Analysis and Interpretation

The study is done on three paper companies namely, The South India Paper Mills Ltd., Rama Pulp and Papers Ltd. and West Coast Paper Mills Ltd. The main object of the study is to examine the liquidity position and its effect on the working capital management of the selected paper companies. The

tools and techniques used in this study i.e. trend analysis (least square method), ratio analysis and percentage method by data from financial year 2014-15 to 2017-18:

Analysis of Working Capital Trends and Liquidity of Selected Paper Companies in India

Trend, also called secular or long-term trend, is the basic tendency of current assets and current liabilities etc. Trend is generally computed by trend ratios or by trend percentages.

Table 1: Working Capital Indices and Trend Values of Selected Paper Companies

		(Rs. in Lakhs)			
Companies	Items	2014-15	2015-16	2016-17	2017-18
South India Paper Mills Ltd. (SIPML)	(i) Working Capital	3664.60	2336.26	3568.57	4230.99
	(ii) Indices	100	63.75	97.38	115.46
	(iii) Trend Values	3010.38	6020.76	9031.14	12041.52
Rama Pulp and Papers Ltd. (RPPL)	(i) Working Capital	1347.44	1169.37	1183.05	1118.12
	(ii) Indices	100	86.78	87.80	82.98
	(iii) Trend Values	1305.64	2611.28	3916.92	5222.56
West Coast Paper Mills Ltd. (WCPML)	(i) Working Capital	-16058.06	1113.54	2909.06	12225.29
	(ii) Indices	100	-6.93	-18.12	-76.13
	(iii) Trend Values	-12949.38	-25898.76	-38848.14	-51797.52
Consolidated	(i) Working Capital	-11046.02	4619.17	7660.68	17574.40
	(ii) Indices	100	-41.82	-69.35	-159.10
	(iii) Trend Values	-8633.36	-17266.72	-25900.08	-34533.44

Source: Annual Reports of Paper Companies, year 2014-15 to 2017-18.

Note: (i) Indices have been calculated taking year 2014-15 as base year.

(ii) Trend Values have been calculated on the basis of straight line method of least squares $Y = a + bX$

South India Paper Mills Ltd.

The indices of working capital of SIPML marked an increasing trend during the period of study (except in the year 2014-15). During the year 2017-18, the indices of working capital increased significantly and reached at the top to 115.46. The reason of acute rise in working capital in the year 2017-18 was owing to sharp increase in inventories and trade receivables. The least square trend values of working capital in SIPML are shown in table 1. From the trend line equation (i.e. $Y = 2717.23 + 293.15X$) of net working capital fitted by least square method we can easily see estimated values of working capital in the future periods. The average annual increase in working capital comes to Rs. 3010.38 lakhs. The trend values of working capital differed materially in all the years covered under the study. The working capital of this concern increased during the study period due to increase in all the items of current assets.

Rama Pulp and Papers Ltd.

The indices of working capital in RPPL throughout the period of study marked a fluctuating trend as shown in table 1. During the year 2016-17

the indices of working capital increased significantly and reached at the top to 87.80. The main reason of the sharp increase in the indices of working capital during the year 2016-17 is that the current assets registered a higher growth rate than current liabilities. It was 100 in the year 2014-15, which decreased continuously from the year 2015-16 to 2017-18 (except in 2016-17) and were 100.00, 86.78, 87.80 and 82.98 respectively. The least square trend values of working capital of RPPL are also shown in table 1.

West Coast Paper Mills Ltd.

The indices of working capital in WCPML throughout the period of study went up and down as shown in table 1. All the indices shows negative in period of study due to excess of current liabilities over current assets in the year 2014-15 (base year) i.e. Rs. 16058.06 lakhs negative working capital. The management of working capital was not satisfactory in the year 2014-15 because current liabilities was Rs. 82573.79 lakhs whereas current assets was Rs. 66515.73 in the year 2014-15. The main reason of increase in current liabilities is the company mostly depends on short term borrowings. The negative volume balance will confirm a falling trend.

Table 2: Current Assets Indices and Trend Values of Selected Paper Companies

		(Rs. in Lakhs)			
Companies	Items	2014-15	2015-16	2016-17	2017-18
South India Paper Mills Ltd. (SIPML)	(i) Current Assets	7178.65	7676.34	7834.33	8471.97
	(ii) Indices	100	106.93	109.13	118.02
	(iii) Trend Values	7184.63	14369.26	21553.89	28738.52
Rama Pulp and Papers Ltd. (RPPL)	(i) Current Assets	2541.21	2381.47	3102.11	2779.64
	(ii) Indices	100	93.71	122.07	109.38
	(iii) Trend Values	2485.72	4971.44	7457.15	9942.87
West Coast Paper Mills Ltd.	(i) Current Assets	66515.73	63019.09	48104.49	50574.58
	(ii) Indices	100	94.74	72.32	76.03

(WCPML)	(iii) Trend Values	66464.18	132928.36	199392.54	265856.72
Consolidated	(i) Current Assets	76235.59	73076.90	59040.93	61826.19
	(ii) Indices	100	95.86	77.45	81.10
	(iii) Trend Values	76134.52	152269.04	228403.56	304538.08

Source: Annual Reports of Paper Companies, year 2014-15 to 2017-18.

Note: (i) Indices have been calculated taking year 2014-15 as base year.

(ii) Trend Values have been calculated on the basis of straight line method of least squares $Y = a + bX$

Table 2 as above shows current assets indices and trend values of selected paper companies in India. The indices of current assets in SIPML increased continuously till the year 2017-18 and were 100.00, 106.93, 109.13 and 118.02 respectively. Whereas, the indices of current assets of WCPML declined to 72.32 in the year 2016-17 and then went up to 76.03 in the year 2017-18. The fall in current assets of WCPML during the year 2016-17 was due to a major decrease in short-term loans and advances of the company. The indices of current assets of RPPL

marked a fluctuating trend during the study period. It increased as shown in table 2 in the year 2016-17. The sharp decrease in current assets of RPPL during the year 2015-16 was the effect of sharp decrease in trade receivables. The least square trend values of current assets of SIPML, RPPL and WCPML are also given in table 2. The annual increase in calculated value of current assets comes to Rs. 7184.63 lakhs, Rs. 2485.72 lakhs and Rs. 66464.18 lakhs of SIPML, RPPL and WCPML respectively.

Table 3: Current Liabilities Indices and Trend Values of Selected Paper Companies

		(Rs. in Lakhs)			
Companies	Items	31.03.2015	31.03.2016	31.03.2017	31.03.2018
South India Paper Mills Ltd. (SIPML)	(i) Current Liabilities	3514.05	5340.08	4265.76	4240.98
	(ii) Indices	100	151.96	121.39	120.69
	(iii) Trend Values	4174.25	8348.50	12522.75	16697
Rama Pulp and Papers Ltd. (RPPL)	(i) Current Liabilities	1193.77	1212.10	1919.06	1661.52
	(ii) Indices	100	101.54	160.76	139.18
	(iii) Trend Values	1180.08	2360.16	3540.24	4720.32
West Coast Paper Mills Ltd. (WCPML)	(i) Current Liabilities	82573.79	61905.55	45195.43	38349.29
	(ii) Indices	100	74.97	54.73	46.44
	(iii) Trend Values	79413.52	158827.04	238240.56	317654.08
Consolidated	(i) Current Liabilities	87281.61	68457.73	51380.25	44251.79
	(ii) Indices	100	78.43	58.87	50.70
	(iii) Trend Values	84767.89	169535.78	254303.67	339071.56

Source: Annual Reports of Paper Companies, year 2014-15 to 2017-18.

Note: (i) Indices have been calculated taking year 2014-15 as base year.

(ii) Trend Values have been calculated on the basis of straight line method of least squares $Y = a + bX$

It is clear from table 3 that the indices of current liabilities of the SIPML registered a decreasing trend in the year 2016-17 and 2017-18 (except in 2015-16). It was 100 in the year 2014-15 which increased in the year 2015-16 (151.96) and declined in the year 2016-17 (121.39), also declined in the year 2017-18 (120.69). The least square trend values of current liabilities of SIPML are shown in table 3. The annual increase in the calculated current liabilities comes to Rs. 4174.25 lakhs. The indices of current liabilities of the RPPL marked a rising trend throughout the period of study from the year 2014-15 to 2017-18, except 2017-18 when it came down at 139.18 as shown in table 3. The indices of current liabilities were 100, 101.54, 160.76 and 139.18 respectively. It is evident that the indices of current liabilities increased sharply in the year 2016-17 due to sharp increase in all the components of current liabilities. The least square trend values of current liabilities of RPPL are given in table 3. The positive slope of current liabilities comes to Rs. 1180.08 lakhs

per annum. The indices of current liabilities in WCPML have shown an decreasing trend throughout the period of study from the year 2014-15 to 2017-18. It was 100 in the year 2014-15, which decreased continuously from the year 2015-16 to 2017-18 and were 100.00, 74.97, 54.73 and 46.44 respectively. The least square trend values of current liabilities of WCPML are shown in table 3. The annual increase in the calculated current liabilities comes to Rs. 79413.52 lakhs.

Working Capital Turnover Ratio

Working capital turnover ratio is calculated by dividing the amount of net sales by the amount of net working capital. A normal ratio between sales and working capital should be established which is neither too high nor too low. A very high ratio may be the result of over-trading. On the other hand, a very low ratio may be the result of under-trading which means more working capital funds have been invested. Such ratio analysis should be meaningful in evaluating business efficiency.

Table 4: Working Capital Turnover Ratio of Selected Paper Companies

Companies	(Ratio in times)						
	2014-15	2015-16	2016-17	2017-18	Mean	Min.	Max.
South India Paper Mills Ltd. (SIPML)	5.06	8.84	5.47	3.18	5.64	3.18	8.84
Rama Pulp and Papers Ltd. (RPPL)	7.01	8.09	9.90	10.75	8.94	7.01	10.75
West Coast Paper Mills Ltd. (WCPML)	-10.27	153.87	61.70	13.47	54.69	-10.27	153.87
Consolidated	-17.46	43.61	27.50	10.82	16.12	-17.46	43.61

Source: Figures for Working Capital and Sales have been taken from Annual Reports.

Average working capital turnover ratio of SIPML is 5.64 times during four years. The working capital turnover ratio in SIPML during the period of study marked a fluctuating trend from the year 2014-15 to 2017-18. The ratio was the highest being 8.84 times in the year 2015-16 and the lowest 3.18 times in the year 2017-18. In RPPL, it marked an increasing trend throughout the period of study. The ratio of

RPPL increased sharply to 10.75 times in 2017-18 as compared to 7.01 times in the year 2014-15, due to a significant decrease in the working capital of this company. In the case of WCPML it showed a decreasing trend throughout the period of study. The ratio was the highest being 153.87 times in the year 2015-16 and lowest -10.27 times in the year 2014-15.

Table 5: Current Ratio of Selected Paper Companies

Companies	(No. of times)						
	2014-15	2015-16	2016-17	2017-18	Mean	Min.	Max.
South India Paper Mills Ltd. (SIPML)	2.04	1.44	1.84	2.00	1.83	1.44	2.04
Rama Pulp and Papers Ltd. (RPPL)	2.13	1.96	1.62	1.67	1.85	1.62	2.13
West Coast Paper Mills Ltd. (WCPML)	0.81	1.02	1.06	1.32	1.05	0.81	1.32
Consolidated	0.87	1.07	1.15	1.40	1.12	0.87	1.40

Source: Figures of Current Assets and Current Liabilities have been taken from Annual Reports.

Note: The ratio has been expressed as how many rupees current assets are there for every rupee of current liabilities. Current Ratio = Current Assets / Current Liabilities.

As shown in table-5 the current ratio in the SIPML had been more than or equal to two in the year 2014-15 and 2017-18. As such the condition of SIPML is satisfactory as regards the current ratio. The above table shows that current ratio is less than the norm in the year 2015-16 and 2016-17. The table reveals that the current ratio in RPPL has been showing a decreasing trend (except in 2017-18). It was 2.13 times in the year 2014-15 which decreased to 1.62 times in the year 2016-17. However, during the year 2017-18 the ratio increased at 1.67 times. The current ratio in WCPML showed an increasing trend. The above table shows that current ratio always less than the norm during the period of study. It can be said that the current ratio in RPPL (except in 2014-15) and WCPML has not been satisfactory. Current ratio of WCPML is 0.81 in the year 2014-15 that shows the company has maintained lesser assets than liabilities.

Findings, Conclusion and Suggestions

Findings

After the data analysis various findings are as follows:

1. The indices of working capital and also the indices of current assets of selected paper companies shows an increasing trend throughout the period of study from the year 2014-15 to 2017-18 (except some time). The annual increase in working capital comes to Rs. 3010.38 lakhs and Rs. 1305.64 lakhs in case of SIPML and RPPL respectively.
2. The least square trend values of current liabilities as shown in table 3, the positive slope of current

liabilities comes to Rs. 84767.89 lakhs as consolidated. The indices of current liabilities in selected paper companies registered a decreasing trend during the period of study from the year 2014-15 to 2017-18.

3. The current ratios of the companies are not at a satisfactory level. The companies are not in a safe position. The current ratio trend shows that the ratios are below the standard of 2:1 (except in the year 2014-15 and 2017-18 in case of SIPML and in the year 2014-15 in case of RPPL).

Conclusion

Based on the data analysis, I concluded that the overall working capital management has improved over the years. The management of working capital concerns the management of money, inventories, accounts receivable and accounts payable. From the study undertaken it is clear that the various components of working capital are interrelated. An increase in one component will decrease the amount of other, leading to maintain the level of working capital. The current ratio in WCPML showed an increasing trend. Working capital management of all selected paper companies is satisfactory during all the years under study. But the current ratio has always less than the norm 2:1 (except in the year 2014-15 and 2017-18 in case of SIPML and 2014-15 in case of RPPL) during the period of study. It can be said that the current ratio in RPPL and WCPML has not been satisfactory. The study reveals that West Coast Paper Mills Ltd. has highest growth of net working capital during the holding period. The SIPML depended on

short term borrowings to finance their working capital needs. The indices of working capital of SIPML marked a increasing trend throughout the period of study (except 2014-15). The indices of working capital in RPPL throughout the period of study marked a fluctuating trend. The main reason of decrease in working capital was proportionately higher increase in current liabilities as compared to current assets. The working capital turnover ratio in SIPML during the period of study marked a declining trend from the year 2015-16 to 2017-18. In RPPL, it marked an increasing trend throughout the period of study. In the case of WCPML it showed a fluctuating trend throughout the period of study. The current ratio in RPPL showed highest (2.13) from all selected companies.

Suggestions

1. It may be suggested that these concerns should generate enough internal funds from operations and reduce their dependence on borrowings.
2. The company may improve the liquidity position by making more increments in current asset, so in future debit should be preferred for financing to bring the ratio close to the ideal ratio of 1:1. It should always try to maintain and adequate quantum of net current asset.
3. There is decreasing trend in net working capital turnover ratio it would be advisable for the company to come out with an equity right issue. This should be increase the performance of the ratio.
4. The Net profit ratio, Gross profit ratio, Stock or inventory turnover ratio, Operating profit ratio is good, but the company should considered ways and means of increasing its working capital position. So, the company must take necessary steps to enhance the owner's capital to improve the profitability of the company.
5. The company should exercise control over the manufacturing cost and must find out the ways

and means of reducing its cost of production. This will have a way to increase the profitability of the company.

6. The companies should have a sound working capital management system.

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